



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,346	11/15/2000	Mario Pagliaro	PAGLIAR01	9119

1444 7590 12/14/2001

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

WILSON, JAMES O

ART UNIT	PAPER NUMBER
----------	--------------

1623

DATE MAILED: 12/14/2001

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/646,346

Applicant(s)
Pagliaro et al.

Examiner
James O. Wilson

Group Art Unit
1623



☒ Responsive to communication(s) filed on Nov 15, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire Three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-18 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9 and 11-14 is/are rejected.

☒ Claim(s) 10 and 15-18 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1623

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10 and 15-18 are objected to under 37 CFR 1.75© as being in improper form because a multiple dependent should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 10 and 15-18 have not been further treated on the merits.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 12 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 and 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terminology "heterogenous process" is seen to be unclear and renders claim 1 indefinite in the absence of one or more of the terms "catalytic or stoichiometric", which are

Art Unit: 1623

required to define the meaning of the term "heterogenous". In claim 1, the phrase "selected from the group including" is seen to be confusing, where applicant fails to include the identity of all of the members of the Markush group. It is difficult to ascertain the metes and bounds of the compounds applicant intends to prepare via the method instantly claimed. This renders claim 1 confusing and indefinite. The phrase "generally selected from" as such refers to the co-solvent, fails to particularly point out the distinct identity of the alternatives for formulating a co-solvent intended to be used in the method claimed. Claim 3 is indefinite because the term "non-hydrolyzable" lacks antecedent basis, since the term is not present in claim 1 from which claim 3 depends. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 4 and 5 recites respectively, the broad recitations "pressure lower than 70 mm Hg", and "temperature lower than 100 C", and the claims also recite respectively "preferably 15 mm Hg" and "preferably 45 C" which are the narrower statements of the range/limitations.

In claim 11 the term "catalytic" is not seen to have clear antecedent basis from claim 1, since the term "catalytic" does not appear in claim 1. Claim 12 provides for the use of a doped porous material, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it

Art Unit: 1623

merely recites a use without any active, positive steps delimiting how this use is actually practiced. Claim 13 depends from claim 1. The identity of the "doped catalytic material" is unclear since there is not seen any antecedent basis for the terminology in claim 1.

Dependent claims which fail to remedy the deficiencies of the claims from which they depend are also seen to be rejected for the reasons of record.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Avnir et al. Patent 5,292,801 in combination with the .

Claim 1 is drawn to a process for preparing sol-gel porous materials either chemically or physically, wherein the materials are doped with organic nitroxyl radicals, comprising: copolymerizing a solution, evaporating the solvent, drying said gel, coating said gel onto a mesoporous inorganic support and drying said mesoporous material coated with said sol-gel. Claim 2 is drawn to the identity of the variable "M" in claim 1. Claims 4 and 5 specify the type of drying intended for the gel. Claims 6 and 7 are drawn to the manner in which the monomer and nitroxyl moieties are combined into the reaction mixture. Claim 8 is drawn to the identity of the nitroxyl moiety and the monomer precursor. Claim 9 describes the relationship between the nitroxyl and monomer moieties. Claim 11 is drawn to the shape of "said catalytic porous material". Claim 13 is drawn to a liquid-phase oxidative conversion. Claim 14 describes the liquid phase.

Art Unit: 1623

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The Avnir et al. patent, 5,292,801, discloses doped sol-gel glasses. In the example set forth in column 6, the examiner notes the following steps, polymerizing a solution via polycondensation of alkoxysilanes, drying said gel with a mild heat treatment to form glass, see lines 9-18. The variability of the reaction conditions and the effects of same are clearly set forth in the prior art disclosure. The description of the method set forth in Avnir et al. is seen to be disclose analogous steps to those instantly claimed with the exclusion of the solvent evaporation step. Contingent upon the solvent used, a mild heat treatment set forth as applicable in the instant process could facilitate such solvent evaporation at the time of gel drying with mild heat. Note, the coating of glass plates is disclosed, wherein the skilled artisan would know that the material to be coated may be a solid support for a variety of reagents, see column 5, lines 57-68. See also claim 2 for the disclosure of the metal in the at least one monomer intended for use in the method of claim 1.

The Shames et al. Reference teaches it is well known in sol-gel technology to use the compound 4-oxo-Tempo in the preparation of a sol-gel.

It would have been obvious to one having ordinary skill in this art at the time the invention was made to polymerizing a solution via polycondensation of alkoxysilanes, drying said gel with a mild heat treatment and to follow art recognized steps to coat a mesoporous material as applicant's have done with the above cited references before them. The reaction

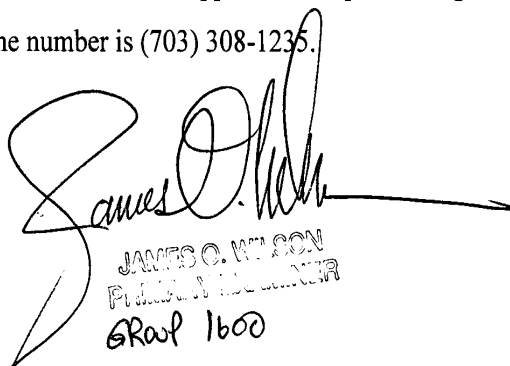
Art Unit: 1623

conditions and reaction steps of single step mixing, drying under pressure, temperature ranges, and substrate conversion are all seen to be within the purview of the skilled artisan in sol-gel technology. The invention is seen to be prima facie obvious in view of the prior art cited supra and in the absence of proof to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James O. Wilson. The examiner can normally be reached on Monday-Friday between the hours of 10:00 a.m. and 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Geist, SPE of Art Unit 1623, may be reached at (703) 308-1701. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.



JAMES O. WILSON
Patent Examiner
Group 1600